



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,735	12/21/2001	Kou-Chang Liu	KCX-479 (17366)	3667

7590 09/23/2003  
TIMOTHY A. CASSIDY  
Dority & Manning, Attorneys at Law, P.A.  
P.O. Box 1449  
Greenville, SC 29602

EXAMINER

PENG, KUO LIANG

ART UNIT	PAPER NUMBER
----------	--------------

1712

DATE MAILED: 09/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/036,735

Applicant(s)

LIU, KOU-CHANG

Examiner

Kuo-Liang Peng

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 7/11/03 Amendment.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19, 22-40, 43-48 and 50-52 is/are rejected.
- 7) ☒ Claim(s) 20, 21, 41, 42, 49 and 53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7, 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. The Applicants' amendment filed on July 11, 2003 was received. Claims 20, 26 and 39 are amended.

2 The indicated allowability of Claims 1-19, 22-40, 43-48 and 50-52 is withdrawn in view of the newly discovered reference(s) to Chen (US 5 990 377). Rejections based on the newly cited reference(s) follow.

#### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 4-5, 8-9, 11, 15-16, 19, 22, 25-28, 30 and 34-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen (US 5 990 377).

With respect to Claims 1-2, 4-5, 11, 16, 19, 22, 26-28, 30 and 34, Chen discloses a tissue product prepared by a process for applying a hydrophobic additive to said tissue (col. 8, lines 31-45, col. 28, line 16 to col. 29, line 63 and col. 33, lines 4-29). The hydrophobic additive can be extruded into fibers (col. 33, lines 30-49). The tissue can have a basis weight of 15 to about 60 gsm (col. 36, lines 1-6). Examples 3 to 6 illustrate the use of tissues having a basis weight of about 30 gsm (Figure 16). The portion of the surface area treated with hydrophobic additive can be from about 40% to about 75% (col. 4, lines 31-54). Both sides of the tissue can be treated

Art Unit: 1712

(col. 36, lines 41-63). The hydrophobic additive can be silicone compounds such as silicone oils or silicone waxes (e.g., alkyl methyl siloxanes) (col. 3, line 50 to col. 4, line 20). The hydrophobic additive can contain up to about 100 wt% of the silicone waxes (col. 34, lines 37-47). As such, Chen's hydrophobic additive can be surfactant free and preservative free. Furthermore, Chen teaches away the use of surfactants in the hydrophobic additive (col. 1, lines 55-61).

With respect to Claims 8-9 and 35-38, aforementioned silicone oils reads on polysiloxane in the instant claims. Therefore, it inherently can function as a softener.

With respect to Claims 15, 25 and 39, the hydrophobic additive can be used in an amount of from about 1% to about 5% of the tissue (col. 35, line 58 to col. 36, line 6).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 6-7, 10, 12-14, 17-18, 23-24, 29, 31-33, 40, 43-48 and 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen.

Chen discloses a tissue product prepared by a process for applying a hydrophobic additive to said tissue, *supra*, which is incorporated herein by reference.

With respect to Claims 3, 6-7, 29, 31-33, 43-48 and 50-51, Chen is silent on the Wet Out Time of the treated tissue. However, Chen teaches that the portion of the surface area treated with hydrophobic additive should be great enough to provide an effective improvement in comfort, which will depend on the specific product. It is noted that the Wet Out Time is closely related to the portion of the treated surface area. It is further noted that the Wet Out Time of the treated tissue will be longer than that of the untreated tissue. Therefore, the Wet Out Time or the difference of the Wet Out Times before and after treatment are Result-Effective variables. In light of which, it would have been obvious to one of ordinary skill in the art at the time of invention to treat the tissue so that the tissue have whatever Wet Out Time or the difference of the Wet Out Times before and after treatment through routine experimentation by adjusting the portion of the surface area treated with the hydrophobic additive to obtain an adequate comfort for a specific product. Especially, Applicants do not show the criticality of the specific Wet Out Time recited in the instant claim. See MPEP 2144.05 (II).

With respect to Claim 10, Chen teaches the use of virucides, bactericides, emollients, etc. in the tissue (col. 36, lines 7-29). In other words, Chen does teach the desire for the tissue having properties such as anti-microbial, anti-fungal, etc. In light of which, although Chen does not specifically teaching the use of virucides, bactericides, emollients, etc. in the hydrophobic additive, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate virucides, bactericides, emollients, etc. in the hydrophobic additive composition in order to impart the properties such as anti-microbial, anti-fungal, etc. to the tissue as a whole (i.e., both the treated and untreated portion of the tissue).

Art Unit: 1712

With respect to Claims 12-14 and 23-24, it is noted that the viscosity of the hydrophobic additive is closely related to the processibility of the hydrophobic additive. In other words, the viscosity is a Result-Effective variable. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize a hydrophobic additive with whatever viscosity through routine experimentation in order to afford a hydrophobic additive with adequate processibility. See MPEP 2144.05 (II). It would have been obvious that the viscosity of the hydrophobic additive is properly adjusted so that it can be extruded at ambient temperature for saving energy and cost. Furthermore, it is obvious that heating is the alternative way to adjust the viscosity of the hydrophobic additive.

With respect to Claim 17, Chen is silent on the diameter of the fibers prepared from the hydrophobic additive. However, as mentioned previously, Chen teaches the desire of having a proper portion of the treated tissue surface and a proper amount of the hydrophobic additive per unit area on the tissue surface. It is noted that the diameter of the fiber affect the both these criteria. Therefore, the diameter is a Result-Effective variable. In light of which, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize fibers with whatever diameter through routine experimentation in order to obtain a tissue with an adequate portion of treated surface area and an adequate amount of the hydrophobic additive per unit area.

With respect to Claim 18, 40 and 52, Chen is silent attenuating the fiber prior to being deposited onto the tissue. However, it is noted that attenuated fibers can enhance the strength of the fiber. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to attenuate the fibers.

Art Unit: 1712

7. Claims 20-21, 41-42, 49 and 53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Chen does not teach or fairly suggest the use of an aminopolysiloxane or a polyether derivatized aminopolysiloxane in the hydrophobic additive.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (703) 306-5550. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson, can be reached on (703) 308-2340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

klp  
September 17, 2003

  
Kuo-Liang Peng  
Art Unit 1712